

Health Equity Brief Environmental Factors in Allegheny County



Issue 1, May 2018

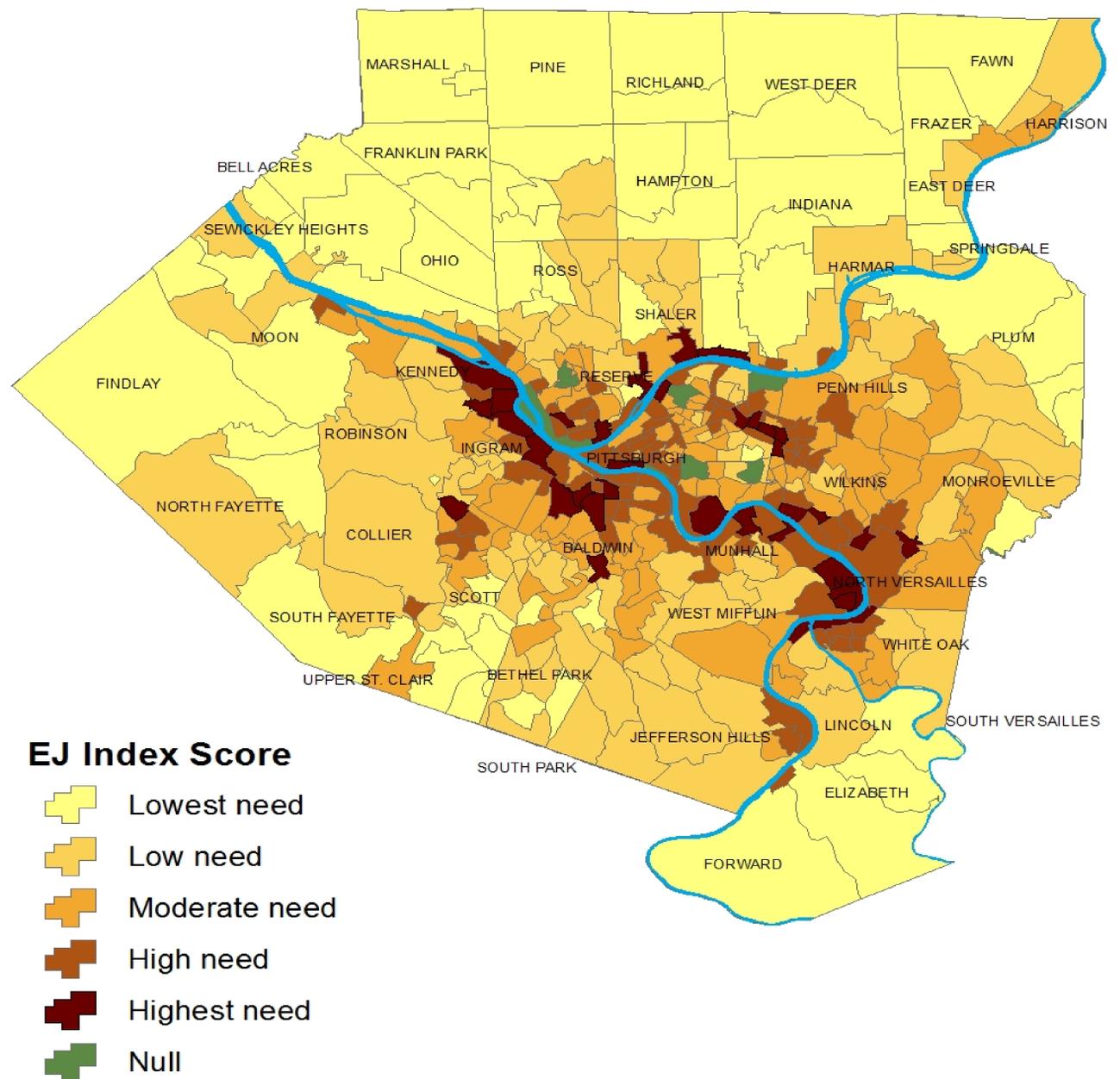
The Big Picture on Environment

Environmental Justice

Environmental justice (EJ) is defined in many ways. Overall, EJ is rooted in the belief that all people, regardless of race, ethnicity, gender, or income, have the right to a clean and healthy environment in which to live, work, go to school, play, and pray*.

Unfortunately, not all areas are conducive to a healthy environment and, as such, place matters when it comes to environmental exposures, the physical environment, and access to resources. The EJ index (mapped here) was created to identify high priority communities in Allegheny County in order to target interventions**.

Allegheny County Environmental Justice Index



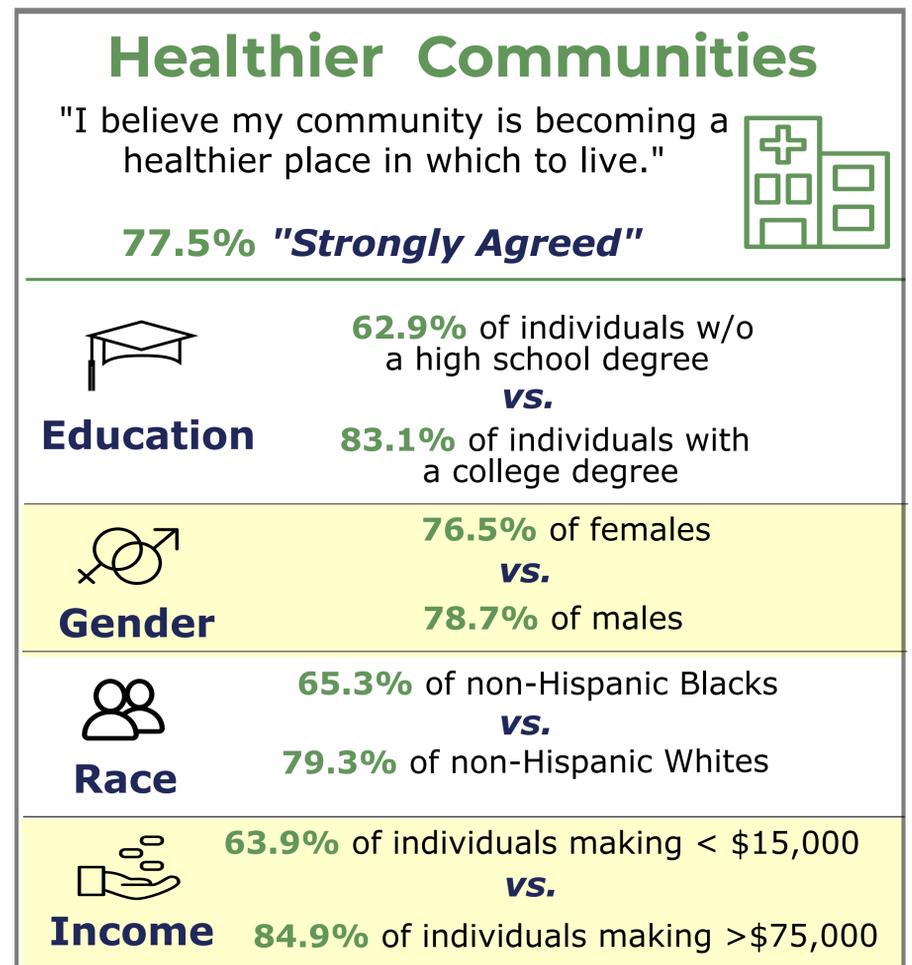
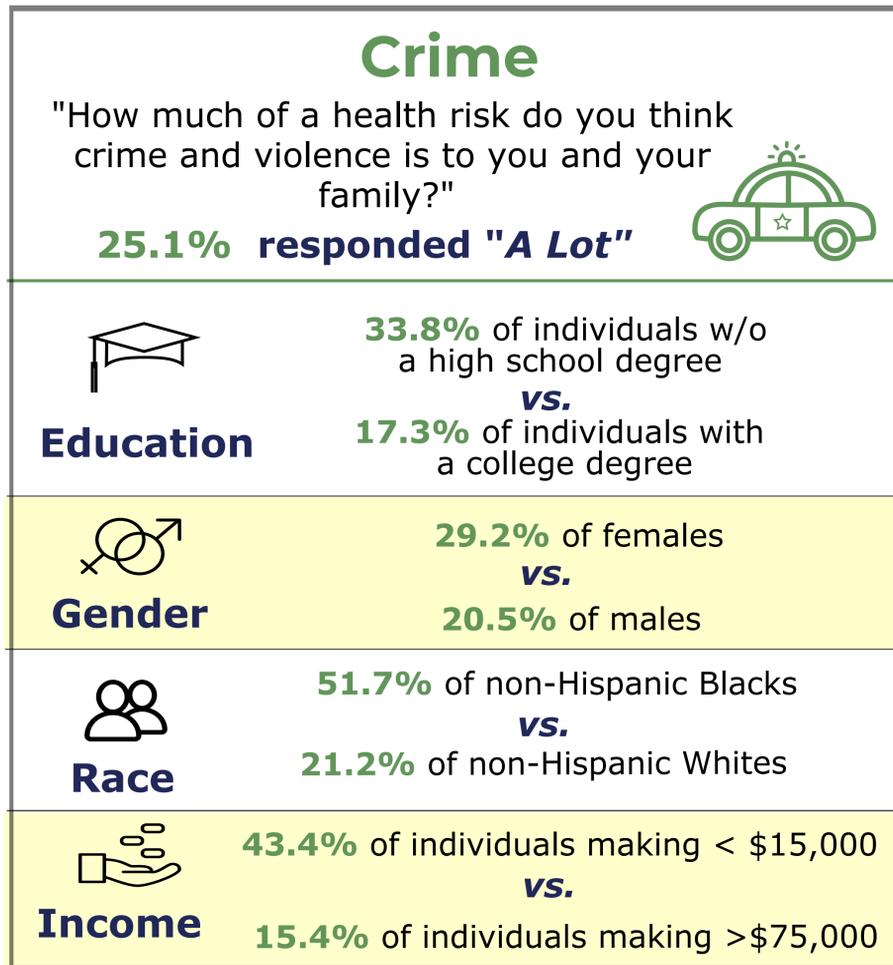
Environmental Justice in Allegheny County

The EJ Index for each census tract in Allegheny County uses 10 metrics, including measures of the built environment (such as vacant properties and green space, air quality variables such as traffic density and particulate matter), as well as social determinants (such as education, poverty and race/ethnicity). Based on this index, the communities that were identified as the highest need were Duquesne, McKeesport, and East Pittsburgh. This brief will focus on place, and discuss Allegheny County residents' perceptions of their communities, while exploring data on the built and social environment, air quality, lead exposure, and health outcomes.

*https://dornsife.usc.edu/assets/sites/242/docs/EQUITY_ISSUE_BRIEF_Env_Just_Full.pdf
**<http://www.achd.net/biostats/pubs/pdf/2017-AC-Environmental-Justice-Index.pdf>

Built and Social Environment

When residents in Allegheny County were asked their perceptions about crime and their community, Black residents were more likely to report crime and violence as health risks, compared to White residents. More women reported crime as a health risk than men. Also, those with lower education and lower income more often perceived that crime and violence were health risks. When asked to mark their agreement with the statement "I believe my community is becoming a healthier place in which to live," 77.5% strongly agreed. "Strongly Agreed" was stated more often by White residents, men, and those with higher income and education.



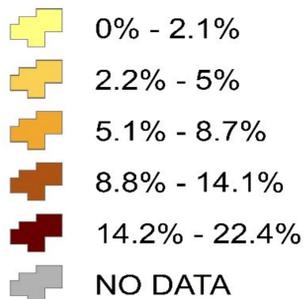
Crime & Healthier Communities: <http://www.achd.net/biostats/brfss.htm>

Vacant Properties

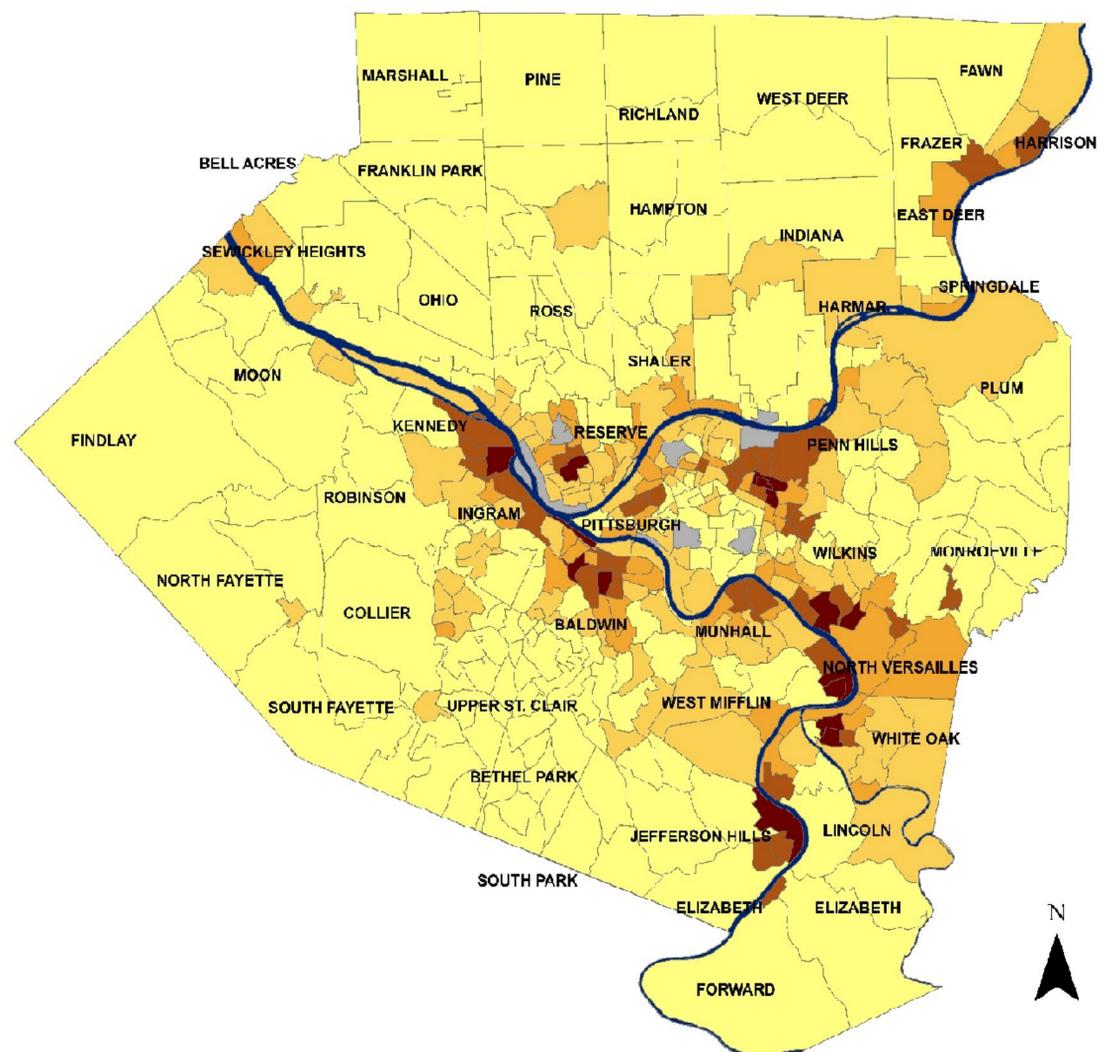
Allegheny County Vacant Properties, 2016 USPS Data

Vacant Properties

percent of vacant residential buildings



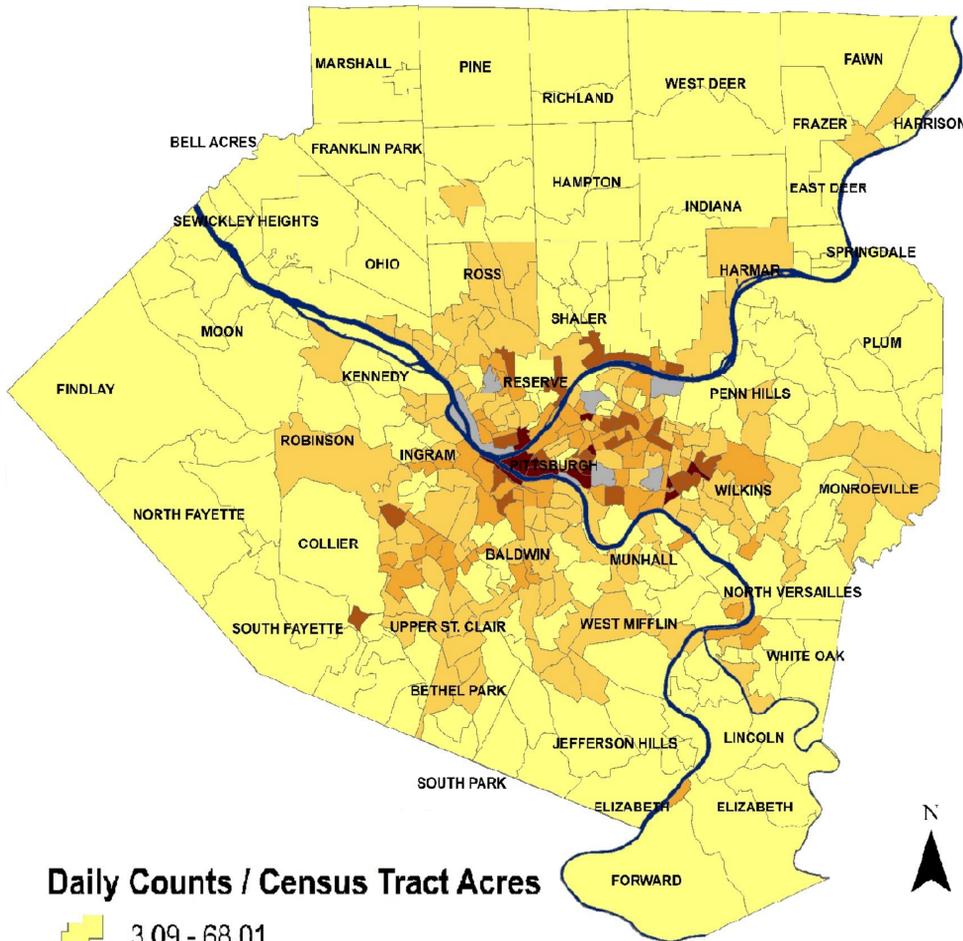
Vacant properties are often an indication of disadvantaged communities. Vacant properties can be associated with higher crime rates, poor housing conditions, and lower socio-economic status. In the map (on the right), we see a higher percentage of vacant properties in river communities.



Vacant Properties: <https://www.huduser.gov/portal/datasets/usps.html>



Allegheny County Traffic Counts, 2012-2014 Sensor Data



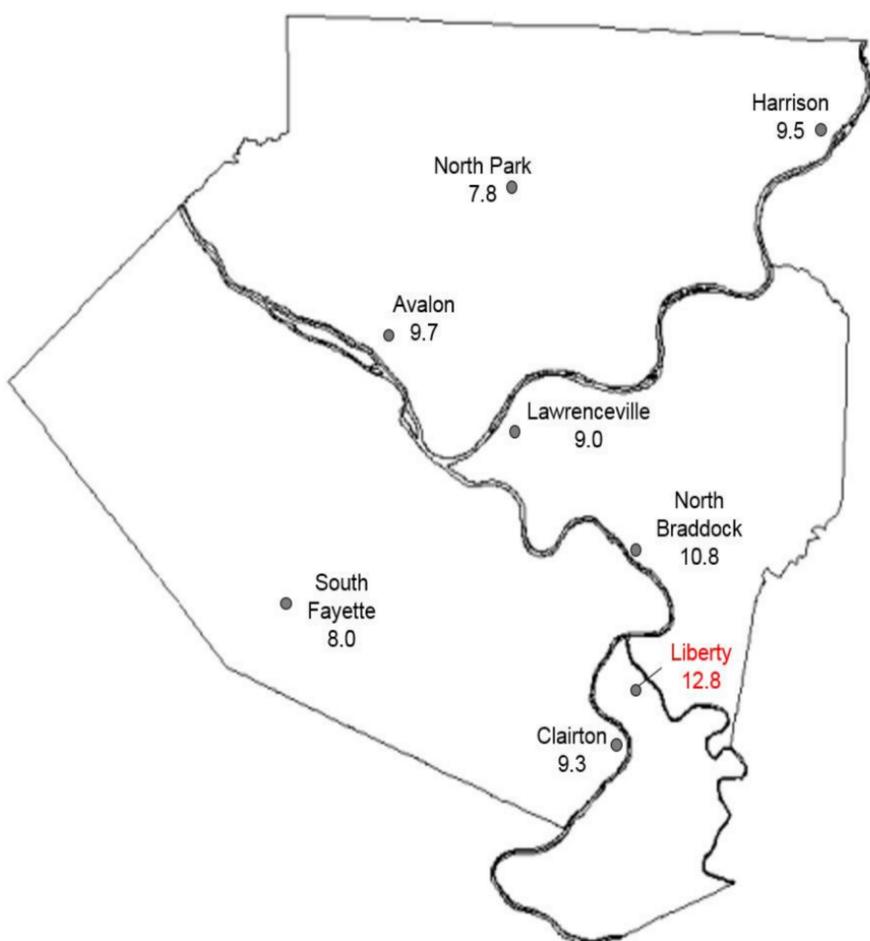
Daily Counts / Census Tract Acres

- 3.09 - 68.01
- 68.02 - 170.51
- 170.52 - 330.72
- 330.73 - 557.33
- 557.34 - 1162.48
- NO DATA

Data on Traffic Counts: Carnegie Mellon University's Traffic21 Institute



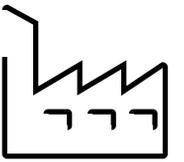
2016 Particulate Matter 2.5 Annual Averages at Allegheny County Monitors in $\mu\text{g}/\text{m}^3$ *



Perceptions

"How much of a health risk do you think outdoor air quality, such as air pollution, is to you and your family?"

23.5% responded **"A lot"**



Education

25.2% of individuals w/o a high school degree
vs.
24.1% of individuals with a college degree



Gender

25.9% of females
vs.
20.1% of males



Race

31.4% of non-Hispanic Blacks
vs.
22.6% of non-Hispanic Whites



Income

28.7% of individuals making < \$15,000
vs.
21.4% of individuals making > \$75,000

Resident Perceptions of Air Quality

While the Pittsburgh region's air has improved over time, air quality continues to be a problem due to industries and topography. When asked about air quality, 23.5% of Allegheny County residents reported that their outdoor air quality is a health risk. A larger percentage of Black residents reported air quality is a health risk, compared to White residents.

Measures of Air Quality

Living in areas near highways and with heavier traffic can expose residents to more pollutants. The map (above) shows that traffic counts are higher in the city of Pittsburgh, especially near the downtown area. A direct measure of air pollution, particulate matter, is shown for Allegheny County in the map (on the left). A high concentration of particulate matter is seen in the city of Pittsburgh and areas in the southeast portion of the county, near industrial complexes.



Your Air Quality

Here's a link to provide public information on air quality in your neighborhood:
https://www.airnow.gov/index.cfm?action=airnow.local_city&cityid=164

Air Quality Perceptions:

<http://www.achd.net/biostats/brfss.html>

*2016 Air Quality Report:

http://www.achd.net/air/annualreports/2016_final_AQ.pdf

Asthma Emergency Department (ED) Visits, 2012-2016

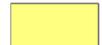
Data presented in the map show Emergency Department (ED) visits for asthma in the county, for areas that reported 10 or more visits. Areas in the city of Pittsburgh (vs. suburban areas) have more ED visits.

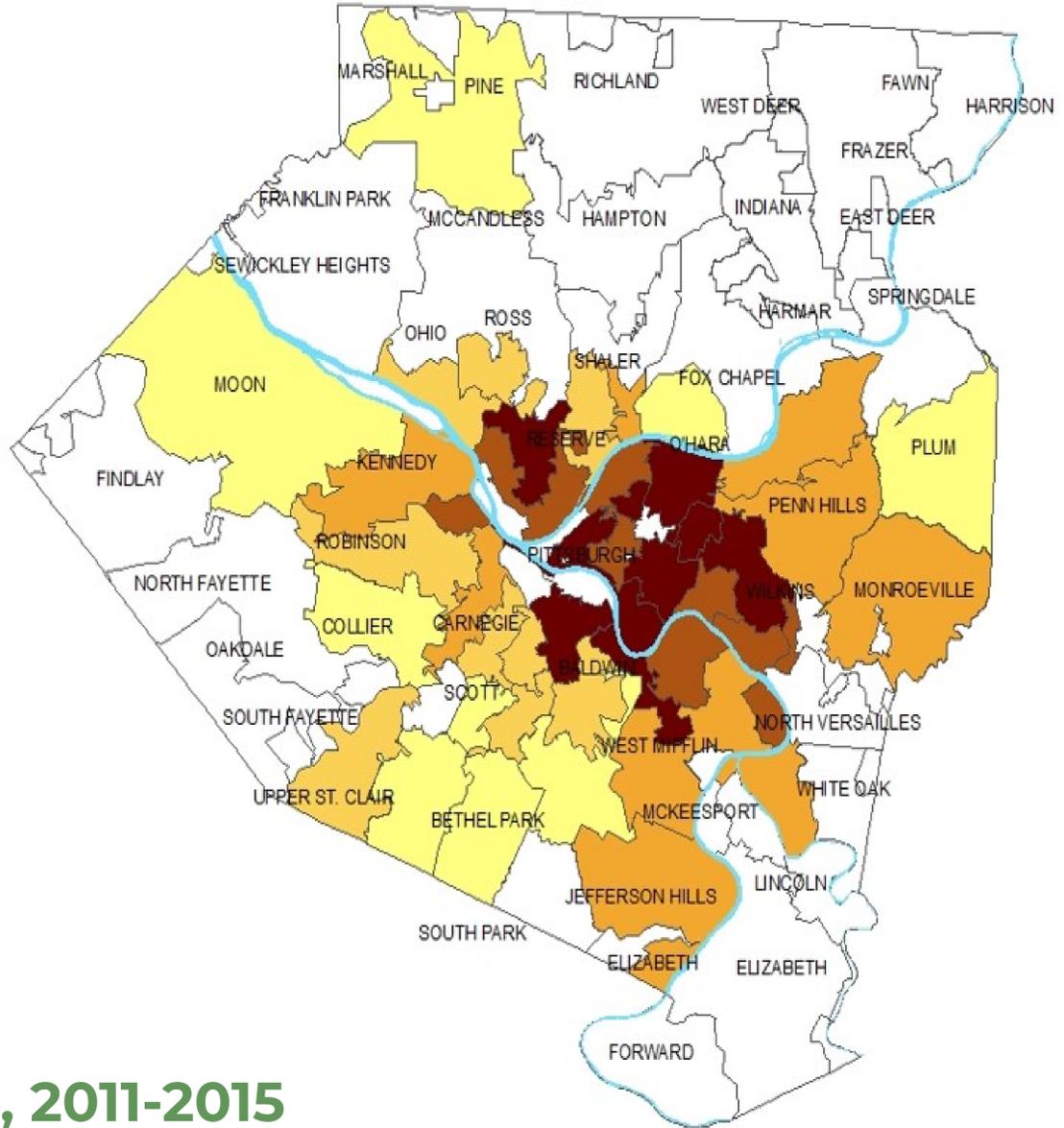
Legend

 Allegheny County Rivers

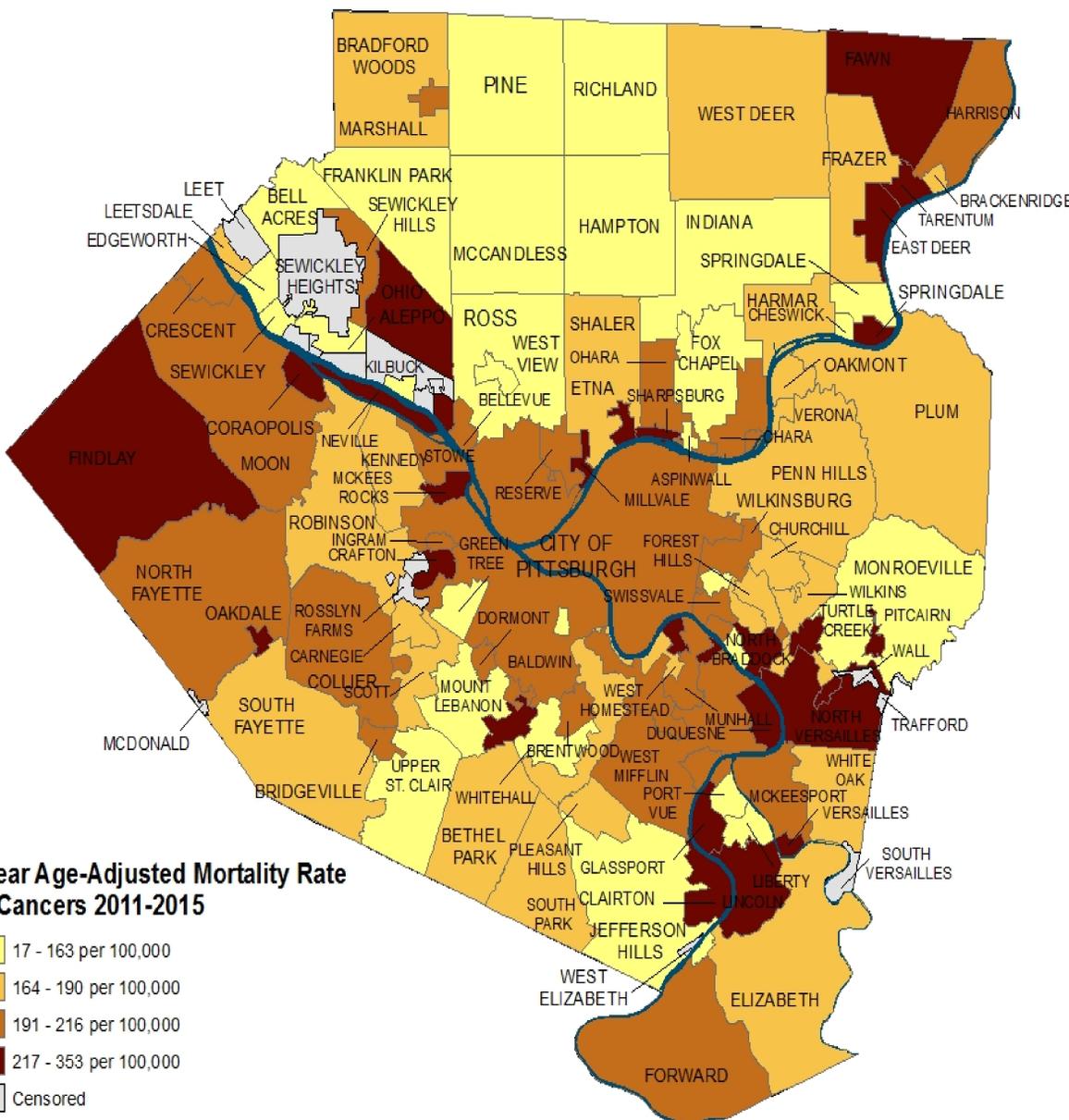
 Zip Code Boundaries

Rate per 10,000

-  3.427 - 8.513
-  8.514 - 12.159
-  12.160 - 19.981
-  19.982 - 27.591
-  27.592 - 42.105



Cancer Death Rates, 2011-2015



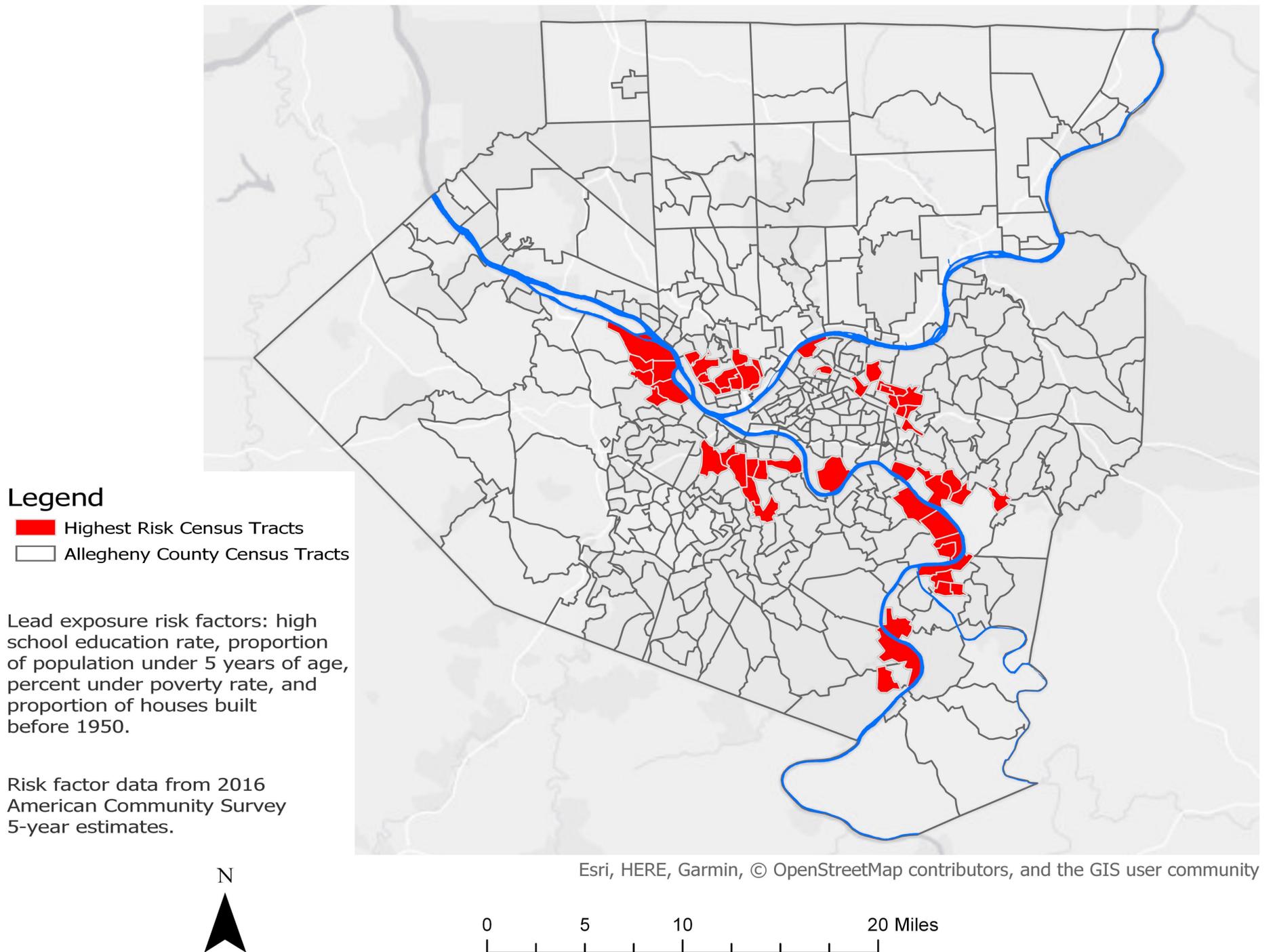
Death rates from cancer in Allegheny County also vary by neighborhood. Although areas within the city of Pittsburgh have high rates (191-216 deaths per 1,000 persons), there are pockets in the county with very high rates (217-352 deaths per 1,000 persons). These are areas in the southeast, including Clairton and North Versailles, and areas in the west (i.e., McKees Rocks and Findlay).

**5-Year Age-Adjusted Mortality Rate
All Cancers 2011-2015**

-  17 - 163 per 100,000
-  164 - 190 per 100,000
-  191 - 216 per 100,000
-  217 - 353 per 100,000
-  Censored

Childhood Lead Exposure*

Allegheny County Census Tracts with Highest Risk for Childhood Lead Exposure



Census tracts (geographic areas with approximately 3000 residents) in Allegheny County were ranked using: percent of population with a high school education rate, percent of population under five years of age, percent of population under poverty rate, and percent of houses built before 1950 (all taken from the 2016 American Community Survey Five-Year Estimates). These census tracts in red represent the highest 1/5th in the County for an aggregate of those lead exposure risk factors.

Precautions

 Elevated levels of lead exposure in children increase their risks for cognitive development issues. Common sources of lead in a child's environment include soil, dust, interior paint, water, older radiators, and jewelry, ceramics, toys, candy, and makeup imported from other countries.

 Parents can reduce a child's risk of lead exposure by ensuring that windowsills, floors, and entranceways to locations where the child spends time are frequently cleaned. Additionally, providing the child with food high in Iron, Vitamin C, and Calcium can reduce their absorption of lead. Residents can also check their water to determine whether lead is present, and follow recommendations including, using bottled water or filters, especially for infants and pregnant women.

 Allegheny County now requires all children to be tested for blood lead levels by both their first and second birthdays.

*More information on lead exposure can be found at: <http://www.achd.net/lead/pubs/pdf/taskforce-report.pdf>

Takeaways



Disparities

There are a number of areas in the county that are considered areas for environmental justice. Individuals living in these areas are disproportionately impacted by environmental issues. ACHD is using this information to target future work.



Prevention

Learn about how and which pollutants can affect you. Make sure your home is environmentally safe. Consider the small things you can do such as recycling, carpooling, and taking public transportation. Limit activities on days with poor air quality, particularly if you have a respiratory condition.



Health

Environmental hazards such as poor air quality, lead in paint, dust, water and soil, and other toxins can impact your health. While these are improving overall, it is important to recognize that environmental pollutants pose a threat to public health.

What is Allegheny County Doing to Close the Gaps?



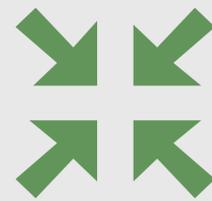
The Plan for a Healthier Allegheny (PHA), developed by a working group of professional and community members in the county, outlines strategies which attempt to address maternal child health discussed in this brief.

Goal: To enhance quality of life by reducing pollution and other environmental hazards using coordinated, data-driven interventions

3.4.1 Identify environmental justice communities in Allegheny County

3.4.2 Develop targeted and focused strategies to address the environment's impact on health outcomes within the identified environmental justice communities in Allegheny County

3.4.3 Identify appropriate projects for the Allegheny County Clear Fund



Action Items

- Learn about current air quality at AirNow.gov for forecasted air quality for your region.
- Go to [achd.net](http://www.achd.net) and visit the Air Quality page under the Environmental Health Bureau, for current air quality data.
- Learn from Environment Protection Agency (EPA), about how these pollutants affect your health and what the program is doing to improve air quality at:
<https://www.epa.gov/criteria-air-pollutants>
<http://www.achd.net/air/index.php>
<http://www.achd.net/environmentalhealth.html>
- Learn how your actions can reduce air pollution at:
<https://www3.epa.gov/region1/airquality/reducepollution.html>
- Carpool, reduce driving and take public transportation.
- Make sure you mitigate environmental hazards in your home and protect your children from lead exposure.
- Learn about lead in your environment at:
<http://www.achd.net/lead/index.html>
- Get involved! If you encounter an environmental problem like excessive smoke or industrial smells, call and register a complaint at 412-687-2243 (ACHD).
- Conduct health impact assessments to analyze the impacts of public decisions on environmental health.
(www.cdc.gov/healthyplaces/hia.htm)

Resources & More Information

More ACHS Results



<http://www.achd.net/biostats/brfss.html>

PHA Dashboard



<http://www.achd.net/pha/>

Air Quality



<http://www.achd.net/air/index.php>

Contact Us



412-687-2243 (ACHD)
www.achd.net